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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules with Regard to the 3650-3700 MHz Government Transfer Band	)	ET Docket No. 98-237

To: The Commission

COMMENTS OF BLOOSTON, MORDKOFSKY, JACKSON & DICKENS

The law firm of Blooston, Mordkofsky, Jackson & Dickens, Washington, D.C., submits these comments in the above captioned proceeding on behalf of the following rural telecommunications carriers: CommNet Cellular Inc., Englewood, Colo.; Kerrville Telephone Company, Kerrville, Texas; Lincoln County Telephone System Inc., Pinoche, Nev.; Minnesota Southern Cellular Telephone Company, Mankato, Minn.; Peñasco Valley Telephone Cooperative Inc., Artesia, N.M.; Ringgold Telephone Company, Macon, Ga.; Sully Buttes Telephone Cooperative Inc., Highmore, S.D.; and 3 Rivers Telephone Cooperative Inc., Fairfield, Mont. (hereafter the "Rural Carriers").

As discussed below, it is important that the auction rules for the proposed Fixed Wireless Access allocation facilitate participation by telecommunications carriers dedicated to serving rural areas. This goal can be accomplished by auctioning licenses defined by the Rand McNally Basic Trading Area (BTAs) or smaller areas. Each license should encompass the full 50 MHz of FWA spectrum, to provide enough capacity for advanced broadband services.

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I. Statement of Interest

The Rural Carriers include commercial and cooperative local exchange carriers and providers of various wireless services. They include cellular and broadband PCS

carriers as well as companies in the process of designing and building local multipoint distribution service (LMDS) networks. All of them have interests in the development and deployment of wireless local loop (WLL) and wireless Internet access technologies in rural areas. Some of them provide service in or near Indian reservations.

The Rural Carriers are excited about the opening of the 3650-3700 MHz band for commercial applications and the potential use of this band for WLL and wireless Internet services. Depending on the details of the Commission's licensing rules, this band could either become an effective tool for introducing advanced services into rural areas or a non-factor in that effort.

II. Introduction

The FCC's specific proposal is to allocate the 3650-3700 MHz band on a primary basis for non-Government fixed services. The NPRM touches on the possibility of land mobile uses, but tentatively finds that the band has limited mobile potential and is well suited for fixed uses. The Commission also notes that a possible use of 3650-3700 MHz could include Fixed Wireless Access ("FWA"), a term used internationally to describe fixed telecommunications services in the 3 GHz band.

In an earlier proceeding, Northern Telecom Inc. (Nortel), a developer of FWA systems and leading advocate of FWA implementation in the United States, wrote:

> FWA can eliminate the dependence on copper to provide "last-10-mile" connectivity; FWA is well suited for non-metropolitan areas, where it eliminates the need to invest in high-cost, less-flexible assets for these less densely populated areas. FWA's relatively lower costs in non-metropolitan areas allows new entrants to offer service, and/or allows the incumbent carrier to compete effectively against new entrants.[1]

The Rural Carriers believe that FWA on these frequencies could have a tremendously positive effect on the deployment of broadband services in rural areas. To ensure this outcome, however, the FCC should take two specific actions:

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[1] See Nortel's initial comments in the *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act* (CC Docket No. 98-146), filed September 14, 1998.

1. Establish 3650-3700 MHz license blocks according to Basic Trading Areas (BTAs) or smaller. Such small license areas will provide greater opportunity for small, rural telecommunications companies to participate in the auctions. Creation of nationwide licenses (or even Major Trading Areas licenses) would effectively shut rural companies out of the auctions.

2. Auction the 3650-3700 MHz band in 50 MHz blocks. The Commission should by no means break the band into smaller blocks. A contiguous 50 MHz block would be a powerful tool for rural companies seeking to establish WLL and wireless Internet services that could compete with wireline carriers. The blocks will decrease in value if they are any narrower.

III. FWA Would Blend Well With Existing Rural Wireless Telecommunications Services

The benefits of FWA-like services are substantial enough to attract any rural carrier with an interest in establishing WLL and the wireless Internet businesses in their service areas. For those that already hold cellular, broadband PCS or LMDS licenses, however, FWA has the potential to add immense value to existing services. The reasons for this are plentiful:

- The 3650-3700 MHz band is lower in the radio spectrum than many of the other bands where telecommunications companies are building WLL facilities, such as the LMDS bands (28 GHz and 31 GHz), the 24 GHz band and the 38 GHz band. Those bands support line-of-sight, last-mile technologies that can provide very high quality service in densely populated areas, or areas in which there are "pockets" of potential subscribers. But, as Nortel points out, FWA is a "last-10-mile" service. Carriers can save money by spacing their hubs wider apart than they would be able to space them using other frequencies. In some cases, rural carriers may be able to extend their coverage along major roads outside of cities and towns to provide broadband coverage to homes along the countryside.

- Rural LMDS carriers would be especially well served by this use of the 3650-3700 MHz band. They could supplement their very high-speed, last-mile service with a somewhat lower-speed service that could reach scattered, rural customers inexpensively.

- The propagation characteristics of the 3650-3700 MHz band are somewhat similar to those that broadband PCS and cellular carriers work with today. Rural carriers would be able to collocate FWA hubs on many of the structures now used for their existing wireless services.

- Rural PCS, LMDS and cellular licensees could acquire FWA licenses for dedicated fixed Internet access. The lower-band PCS and cellular licenses could continue to support mobile and fixed voice services with plenty of capacity left over to offer additional data services. Carriers could dedicate an added 50 MHz FWA block to Internet access in order to provide a high-quality bundle of discounted voice and data services.

- A 50 MHz-wide block in the 3 GHz band potentially could support wireless Internet access at data rates far surpassing the typically marketed speed of digital subscriber line (xDSL) services.[2] Such a service also could surpass typically marketed 3 Mbps cable modem systems.[3] Furthermore, FWA will reach subscribers in many areas where cable modem service likely will never reach. A 50 MHz FWA Internet service could prove to be especially effective in providing residential-level Internet service in those remote, rural areas.

- Multichannel multipoint distribution services (MMDS), which the FCC recently approved for two-way operations, generally are made up of several 6 MHz blocks

[2] See Chart 2 entitled "TECHNOLOGY DEPLOYMENT TO RESIDENTIAL CONSUMERS" appearing on page 34 of the FCC's Section 706 report to Congress (CC Docket No. 98-146), adopted January 28, 1999.
[3] *Id.*

of noncontiguous spectrum, which complicates the process of providing competitive broadband services. MMDS carriers also could benefit from potential collocation with FWA facilities and FWA licenses also could broaden the level of MMDS services by augmenting them with a contiguous 50 MHz block of spectrum.

These positive scenarios, however, hinge on the FCC deciding to auction the 3650-3700 MHz band in 50 MHz blocks covering each BTA.

IV. National Licensing Would Shut Rural Telephone Companies and Small Businesses Out of the 3650-3700 MHz Auction and Destroy the Benefits of FWA for Rural Consumers

The NPRM asks whether nationwide licenses would facilitate speedier implementation of competitive telecommunications services. At the same time, it asks whether national licensees automatically would have undue market power. The Commission also asks whether regional licenses or licenses covering even smaller geographic areas would be more appropriate.

The Rural Carriers believe that the FCC should establish small geographic service areas. The Commission auctioned LMDS and C-Block PCS licenses using Basic Trading Areas (BTAs). Small coverage areas, combined with bidding credit rules similar to those adopted for earlier auctions, are the only way to ensure that small, rural entities will be able to compete for 3650-3700 MHz licenses.

The bid levels for nationwide or even regional FWA licenses likely would rise above the point where small, entrepreneurial and rural telecommunications companies could compete. If one entity or a small handful of entities control all of the FWA frequencies, those large companies would have ample incentive to build out in highly populated areas where they would be more likely to see a rapid return on investment. There would, however, be little incentive for those large carriers to build out in rural areas with low population densities.

Rural telecommunications companies should not be shut out of the FWA auction. Rural telcos have proved in the past that they were well suited to introduce cellular and PCS services in low population areas. They often were willing to build out service where

no other entity was willing to build. That almost certainly will be the case again when the FWA licenses are auctioned and awarded.

As recently as the LMDS auction a year ago, rural carriers bid significant amounts of money on spectrum to be used for future broadband applications. At least two small rural LMDS licensees already have chosen equipment suppliers and put deployment plans in place, well before most of the larger companies that acquired LMDS licenses. [4]

The Commission used BTAs to auction C-Block PCS licenses for the very purpose of making those licenses affordable for to "designated entities" such as small, rural telcos. Likewise, rural telcos likely would not have been able to compete for LMDS licenses had they been offered on a national or regional basis. If the Commission intends for small carriers to have access to 3650-3700 MHz licenses, it knows that auctioning BTA licenses is an effective approach. And, because FWA will be a primarily fixed service, there is no roaming or similar considerations dictating larger areas.

Furthermore, given the fact that C-Block and LMDS licenses already have been awarded and begun operating over BTAs, it likely will be easier to integrate FWA-like services with PCS and LMDS as described above (see page 3) if the Commission awards 3650-3700 MHz licenses using BTAs.

Congress intended that rural carriers should have the opportunity to acquire licenses through auctions. It directed the Commission to adopt rules "promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, *including small businesses, rural telephone companies*, and businesses owned by members of minority groups and women."[5] The Commission's adoption of

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[4] In October 1998, LMDS licensee Central Texas Communications Inc. of Goldthwaite, Texas announced that it would begin building out LMDS networks beginning in mid-1999. It plans to launch competitive local exchange carrier service in a number of neighboring towns using its LMDS frequencies. Newbridge Networks, based in Canada, is supplying the equipment for that deployment. Just last week (Feb. 9, 1999), Virginia Tech University, Blacksburg, Va., announced that it would begin deploying LMDS in May 1999 using equipment provided by Wavtrace Inc. of Bellevue, Wash. Virginia Tech acquired four A-Block LMDS licenses covering rural southern Virginia. It plans to use them to test a number of broadband wireless applications designed for rural service areas.

[5] 47 U.S.C. Section 309(j)(3)(B).

nationwide 3650-3700 MHz licensing, effectively shutting small businesses and rural telephone companies out of the auction, would be contrary to the law.

In its recent Section 706 report to Congress, the FCC emphasized that the Telecommunications Act of 1996 directs to the Commission to see that advanced services reach all Americans. The report specifically mentions that deployment of advanced services for rural Americans is a particular concern. The report also states that wireless technology may be the best way to reach rural Americans. *It is hard to imagine a policy more contrary to that philosophy than awarding nationwide FWA licenses to a single large telecommunications company or small group of large companies.*

The Commission recently has been especially aware of the need to extend advanced services and, sometimes, simple POTS service, into extremely remote and low-income areas, including Indian reservations. During the Commission's January 29, 1999 field hearing at the Indian Pueblo Cultural Center in Albuquerque, N.M., it heard from witnesses that described how wireless technology could be used to provide affordable telecommunications service to Indian reservations. One witness representing a rural telephone company pointed out that its ability to serve remote areas was harmed when the FCC reallocated 450 MHz BETRS frequencies to the paging auction plan. He called for the allocation of more frequencies in rural areas to solve the problem.[6]

The availability of FWA services in these areas potentially could do more than solve the problem of providing simple telephone service. It could lead to high-speed Internet services equivalent to those provided in urban and suburban areas. That service could allow small businesses in remote regions to grow, and give school children in remote areas the educational tools they will need to thrive in the 21st Century.

V. A Contiguous 50 MHz Band Provides the Greatest Opportunity for Rural Carriers

The Commission asks whether it should assign 3650-3700 MHz licenses in a single 50 MHz block. It also asks whether smaller blocks could sustain competitive fixed wireless services.

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[6] See the written testimony of Francis Mike, external affairs manager for Navajo Communications Co.

The Rural Carriers believe that the FCC should auction the full 50 MHz in one block. As described above, 50 MHz will provide rural carriers with the greatest opportunity for new services and network design flexibility. Smaller blocks will have less value and will attract less attention to the auction.

The Commission need only look at the general wireless communications service (GWCS) auction that it was forced to postpone last year due to lack of interest. One of the reasons for the apathy that surrounds GWCS is the fact that the FCC broke the 25 MHz allocation into five 5 MHz blocks. Those blocks may not be able to support much more than a few narrowband applications. The 3650-3700 MHz band must support WLL service that is competitive with wireline technologies for years to come.

The NPRM asks whether the Commission should authorize frequency division duplex (FDD) modulation, which other countries have approved for FWA operations. In the alternative, it asks whether time division duplex (TDD) systems may be more appropriate for the 3650-3700 MHz band.

The Commission notes that other countries have deployed FWA systems over a wider 3400-3600 MHz band and typically employ 50 MHz or 100 MHz separations between transmit and receive channels using FDD systems. That sort of channelization will not be possible in the U.S. where the FWA band is restricted to 50 MHz due to spectrum scarcity in the 3 GHz band. The alternatives are to operate with narrower channel separations or adopt more spectrum-efficient technologies.

Without commenting on the relative merits of one technology over another, the need for more spectrum-efficient systems seems obvious. If TDD can be developed for the U.S. market, it becomes even more preferable that the FCC auction 3650-3700 MHz licenses in one 50 MHz block.

TDD technology, which, in theory, allows upstream and downstream information to flow in the same channel without guard bands, would be the perfect fit for a contiguous-block scheme. There are indications that TDD development is progressing quickly. In the time it takes the FCC to establish FWA auction rules, complete the auction and award licenses, TDD could evolve and emerge as a very viable option for FWA carriers.

VI. Conclusion

The decisions the Commission makes regarding bandwidths and geographic distribution of 3650-3700 MHz blocks could be decisive determiners of whether FWA will be used to provide advanced services to rural consumers. The Rural Carriers urge the Commission to consider the potential of the 3650-3700 MHz band to serve rural areas, in addition to large cities, and design its rules accordingly.

Respectfully submitted,

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